Proposed text for all 6 user guides on post processing results.

Potential insertion sites are at end of section 2, 3, or 4.

Potential Section title – "Postprocessing Calculator Results to incorporate site-specific MCNP Results for ACF, GSF, and F_{surf} Values."

Nearly all of the exposure parameters in the screening level equations can be changed by using the site-specific option in the calculator. Further, many of the isotope-specific values (i.e., slope factors, dose coefficients, partition coefficients, and transfer factors for plants and animals) can be changed by using the user-provided option in the calculator. While many options are given for users to select site size, room dimensions, receptor positions, and building materials to estimate exposure and shielding, it may be necessary to derive a "factor" specific to a particular site using tools like MCNP. The following is a brief description of how to postprocess calculator results. All variables in the ingestion and inhalation equations can be changed in the calculator itself; only the external exposure route could require postprocessing.

The calculator offers the option to export results in a spreadsheet format. Using the spreadsheet, the "factor" supplied by the calculator can be substituted with a site-specific factor supplied by the user. The procedure is relatively straight forward as all the factors are in the denominator of the screening level equations. Simply multiply the screening level by the ratio of the default factor to the site-specific factor.

This general process does work, but further steps may be necessary and please consider the following:

- If adjusting a factor in the external exposure route, the total screening level needs to be recalculated also using the inverse sum of reciprocals.
- If adjusting a factor in parentheses, such as a resident GSF_o, then more postprocessing is required.
- When adjusting a screening level calculated by the secular equilibrium option, factors for all the progeny need to be calculated and totaled using the inverse sum of reciprocals.

Here is an example of the PRG calculator default results for external (2-D soil volume) exposure for an indoor worker exposed to soil. The default GSF_i is 0.4 and represents the shielding provided by general subfloor materials from contaminated soil. In the case of a commercial building being constructed on a concrete slab, a site-specific shielding factor can be generated with MCNP and the site-specific PRG recalculated following the procedure discussed previously. For argument sake, suppose a GSF_i was determined to be 0.2 with MCNP for Ra-226 without consideration of progeny.

The original results are below and show a GSF_i of 0.4 (cell F5) and a PRG of 17.6 pCi/g (cell G5).

	A	B	C	D	E	F	G
1	**Default**						
2	**Indoor Worker PRGs for 2-D Direct External Exposure - No secular equilibrium, no progeny (with decay)**						
3							
4	**Isotope**	**External Exposure Slope Factor (risk/yr per pCi/g)**	**Lambda (1/yr)**	**Halflife (yr)**	**Default Soil Volume Area Correction Factor**	**Total Indoor GSF_i Soil Volume**	**Soil Volume PRG TR=1.0E-06 (pCi/g)**
5	Ra-226	2.50E-08	4.33E-04	1.60E+03	1.00E+00	4.00E-01	**1.76E+01**

The postprocessed results are below with a GSF_i of 0.2 (cell H5) showing the resulting site-specific PRG (cell J5) is twice as large as the default value above, as expected. The green shaded cells need to be added and programmed by the user. Below the green cells, the formula for the postprocessing procedure is given.

	A	B	C	D	E	F	G	H	I	J
1	**Default**									
2	**Indoor Worker PRGs for 2-D Direct External Exposure - No secular equilibrium, no progeny (with decay)**									
3										
4	**Isotope**	**External Exposure Slope Factor (risk/yr per pCi/g)**	**Lambda (1/yr)**	**Halflife (yr)**	**Default Soil Volume Area Correction Factor**	**Total Indoor GSF_i Soil Volume**	**Soil Volume PRG TR=1.0E-06 (pCi/g)**	**Site-Specific Total Indoor GSF_i Soil Volume**	**Default GSFi Removed Soil Volume PRG TR=1.0E-06 (pCi/g)**	**Site-Specific Soil Volume PRG TR=1.0E-06 (pCi/g)**
5	Ra-226	2.50E-08	4.33E-04	1.60E+03	1.00E+00	4.00E-01	**1.76E+01**	2.00E-01	7.04E+00	**3.52E+01**
6									G5 x F5	I5 / H5

Please contact your EPA regional risk assessor before post processing calculator results for Superfund sites.